federal register

FRIDAY, JULY 7, 1978
PART IV

ENDANGERED SPECIES SCIENTIFIC AUTHORITY

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EXPORTS OF APPENDIX II SPECIES

Bobcat, Lynx, River Otter, and American Ginseng—Proposed Export Findings for the 1978–79 Season

[4310-55]

ENDANGERED SPECIES SCIENTIFIC AUTHORITY

[50 CFR Part 810]

EXPORTS OF APPENDIX II SPECIES

Bobcat, Lynx, River Otter, and American Ginseng—Proposed Export Findings for the 1978-1979 Season

AGENCY: Endangered Species Scientific Authority.

ACTION: Proposed rulemaking.

SUMMARY: The Endangered Species Scientific Authority (ESSA) proposes findings on a State-by-State basis as to whether export of bobcat, lynx, and river otter pelts harvested in 1978-1979 and American ginseng roots harvested in 1978 will not be detrimental to the survival of the species. These findings are meant to satisfy ESSA's responsibilities under article IV, paragraph 2 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Federal export permits may be issued only for pelts and roots of these species that were harvested in States for which ESSA has found no detriment. The ESSA seeks public comment in order to base such determinations on the best available information.

DATES: Comments are due on or before August 7, 1978.

ADDRESS: Comments should be addressed to the Executive Secretary, Endangered Species Scientific Authority, 18th and C Streets NW., Washington D.C. 20240. Forthcoming comments and comments already received will be available for public inspection at 1612 K Street NW., Washington, D.C., 11th floor, 7:45 a.m. to 4:15 p.m., Mondays through Fridays except Federal holidays.

FOR FURTHER INFORMATION CONCERNING BIOLOGICAL FINDINGS CONTACT:

Dr. William Y. Brown, Executive Secretary, Endangered Species Scientific Authority, 18th and C Streets NW., Washington, D.C. 20240, 202-343-5687.

FOR INFORMATION CONCERNING EXPORT PERMITS CONTACT:

Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240, 202-634-1496.

SUPPLEMENTARY INFORMATION:

BACKGROUND

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (convention) and its implementing regulations, 50 CFR Part 23, control international trade in animal and plant species included in each of three appendices, listed in § 23.23. The convention appendices are distinct from the list of species issued under the Endangered Species Act of 1973, 16 U.S.C. 1531-1543. Whereas listings under the act include species endangered by any factor, species on the convention appendices must be actually or potentially endangered by international trade. Appendix II includes generally those species not necessarily now threatened with extinction, but which may become so unless trade in them is subject to strict regulation. In addition, appendix II may include species similar in appearance to those species included because of biological jeopardy. The convention required the establishment of a scientific authority whose purpose is to insure the scientific soundness of governmental decisions concerning trade in listed species of plants and animals. Therefore, the Endangered Species Scientific Authority (ESSA) was established by Executive Order 11911 on April 13, 1976 (3 CFR 112-114). On July 11, 1977, the ESSA published an interim charter and other information essential to its operation (42 FR 35799). In that notice, the ESSA requested interested persons to comment on the interim charter as well as to provide biological and trade information on convention species.

The Federal Wildlife Permit Office of the U.S. Fish an Wildlife Service serves as the U.S. Management Authority (MA) for the convention. Before the MA can issue permits for foreign export of appendix II species taken from the wild, the MA must be satisfied that specimens were not taken in violation of State law and in addition the ESSA must advise the MA that the export will not be detrimental to the survival of the species (Convention, Article IV 2). Although this document frequently refers to ESSA "approval" of export, the term indicates that the ESSA has no objection to issuance of export permits by the MA and in no way suggests limitation of the authority of the MA to withhold permits on other grounds. Note also the convention permits are not required for trapping or sale within the United States.

The ESSA has established in its interim charter the following general criteria for determining whether an export (or purpose of import or introduction from the sea) will not be detrimental to the survival of a species:

1. Whether similar export, import, or introduction from the sea has occurred in the past, and has not reduced the numbers or distribution of the species, nor caused signs of ecological or behavioral stress within the species, or in other species of the affected ecosystem.

2. Whether life history parameters of the species and the structure and function of its ecosystem indicate that the present frequencey of export, import, or introduction from the sea will not appreciably reduce the numbers or distribution of the species, nor cause signs of ecological or behavioral stress within the species or in other species of the affected ecosystem.

3. Whether such export, import, or introduction from the sea is expected to increase, decrease, or remain constant in frequency.

(ESSA interim charter, article IV. C., 42 FR 35801.)

The bobcat (*Lynx rufus*, excluding *L.r. escuinapae*), lynx (*Lynx canadensis*), and river otter (*Lutra canadensis*) were included in appendix II effective February 4, 1977. American ginseng was included when the convention became effective on July 1, 1975. The animals were included as members of the entire family *Felidae* and subfamily *Lutrinae*.

In a separate action the U.S. Fish and Wildlife Service is currently reviewing the status of the bobcat, lynx, river otter, and American ginseng to determine whether they should be proposed as endangered or threatened under the Endangered Species Act of 1973. On July 13, 1977, the Service published a notice of review for the bobcat and the lynx (42 FR 35996); on July 28, 1977, the Service published a notice of review for the river otter (42 FR 38935); and on August 11, 1977, the Service published a notice of review for the American ginseng (42 FR 40823). In all three of these notices of review the Service requested interested parties to submit comments concerning the status of these species.

On August 12, 1977, the ESSA and the Service jointly published a notice stating that ESSA findings on commercial international export of these species for the 1977-1978 season will be based on a State-by-State assessment of the status of each species (42 FR 40979).

The variation among the States in Species status indicated that such an individualized approach would best give the ESSA the necessary basis for finding whether export would not be detrimental to the survival of the species. The ESSA reviews many applications on a case-by-case basis, but the large volume of trade in these species calls for general findings. Interested parties were advised in the August 12 notice that the ESSA would publish a subsequent notice indicating the States of origin from which the ESSA was unable to approve commercial international export of subsequently obtained pelts and roots, and indicating authorized level of exports of any species for which commercial export was approved.

On August 30, 1977, the ESSA published notice of its preliminary findings on export of pelts and roots of these four species taken in the 1977-

1978 season. Preliminary findings were made for each species on a State-by-State basis. For its part, the ESSA gave general approval until November 1, 1977, of commercial intenational export of American ginseng roots and bobcat, lynx, and river otter pelts obtained from the wild before August 30, 1977.

In addition, the ESSA approved the commercial international export of river otters and American ginseng taken subsequent to August 30, but only if the applicants could prove that the pelts were obtained from any of 17 States for the river otter or the roots were obtained from Michigan in the case of American ginseng, and only to the extent authorized for each State.

Commercial international export of bobcat and lynx pelts was not approved, pending submission of additional information and management initiatives. For the bobcat, lack of information, rising pelt price and harvest, and needed management innovations were discussed as weighing against ESSA approval of export. Similar circumstances applied to the lynx, except that harvest level had generally declined over the last several years because of normal population cycling.

For the river otter, little information was available but neither price nor harvest had risen dramatically in recent years. Furthermore, State regulation of river otter harvest was found to be greater in scope and degree than for the bobcat.

For American ginseng, the ESSA's withholding of approval stemmed from almost complete lack of State management, coupled with biological information indicating overharvest in many States. Michigan was apparently the only State that allowed but controlled harvest.

In the August 30 notice, the ESSA stated repeatedly that the preliminary findings were based upon data available to it, and that new information could lead it to modify its preliminary findings at any time. The ESSA emphasized in the notice that additional management and regulation of these species in many States would lead the ESSA to many more findings in favor of international commercial export than was then possible. Many of the negative ESSA findings in the notice were stated to be compelled by lack of data and needed regulatory mechanisms, rather than by positive evidence of declining populations.

Following the August 30 notice, many States, nongovernmental organizations and private individuals submitted comments to the ESSA. Based upon information submitted and management commitments made by the States, the ESSA for its part approved export of the three furbearing species from many additional States for 1977–1978. In nearly every case the States of origin agreed to tag a limited number of pelts, and an export quota was assigned based on past harvest and population estimates.

On November 7, the ESSA extended the deadline on export of pelt and root inventories from October 31 to November 30 (42 FR 58019). Export of these was authorized after November 30 only if evidence submitted by applicants left no reasonable doubt that the furs or roots were harvested before that date.

A workshop on the bobcat, lynx, and river otter was held in New Orleans on January 23–25, 1978. The working group was selected by the Executive Secretary of the ESSA, and consisted of 12 professional biologists under the chairmanship of Dr. L. David Mech of the U.S. Fish and Wildlife Service. The group's mandate was to determine as specifically as possible the biological information and management programs needed to ensure that harvests of the three species will not be detrimental to their survival or to the maintenance of the species at levels consistent with their normal roles in the environment.

Several representatives of State wildlife agencies, conservation organizations, and user groups participated in a daylong discussion of a draft report on the third day of the meeting. They were asked to submit comments in writing for incorporation into a final report. The report has been published by the National Science Foundation, and is available to the public from the Office of the Executive Secretary of the ESSA.

On February 8, 1978, the State of Louisiana and several private parties filed litigation in the Federal District Court for the Eastern District of Louisiana. The plaintiffs in that case are seeking, among other things, an injunction against impediments to the exportation of bobcat and river otter lawfully taken in Louisiana, as well as a declaration that the listing of bobcat and river otter is unlawful.

On February 28, 1978, a private party filed suit in the Eastern District of Wisconsin, setting forth virtually the same claims as had the State of Louisiana, but applied to Wisconsin bobcat and river otter.

The ESSA published two notices in the FEDERAL REGISTER on March 16, 1978. One notice (43 FR 11081) summarized the ESSA's export findings on these species for 1977–1978. Export had been approved: For the bobcat, up to 76,000 pelts from 29 States and the Navajo Indian Reservation; for the lynx, up to 285 pelts from four States plus an unlimited number from Alaska; for the river otter, up to 26,935 pelts from 23 States plus an unlimited number from Alaska. By May 2, the ESSA had approved export of bobcat and river otter from two more States (Arkansas and Michigan), for an additional 3,350 bobcat and 1,210 river otter. Every exporting State had agreed to tag pelts.

Also on March 16, the ESSA published notice of a schedule for 1978–1979 export findings (43 FR 11097). A public hearing was set for May 1, 1978. Guidelines were to be published on or about April 10, followed by proposed findings in July and final findings in September, made on a State-by-State basis.

On April 3, 1978, the ESSA published detailed notice of the hearing to be held on May 1, concerning information needed to satisfy the ESSA that export will not be detrimental to the survival of bobcat, lynx, and river otter harvested in 1978–1979, and American ginseng harvested in 1978.

The ESSA published a notice on April 10, entitled: "Guidelines and Information Needs for 1978–1979 Export Findings." This notice discussed the meaning of "not detrimental to survival" as a conservation objective. Useful biological information and management initiatives were enumerated, and reference was made to the recommendations of the New Orlean's working group. Public comment was requested.

The ESSA conducted a public hearing on May 1, as promised in the April 3 notice. Eight witnesses testified, two representing State governments, four representing conservation and animal welfare organizations, one representing a trappers' organization, and one representing major ginseng dealers. Administrative Law Judge David Torbett presided at the hearing. Members of the ESSA and staff were present. A transcript was made, and is available for inspection at the Office of the Executive Secretary of the ESSA.

SUMMARY OF GENERAL COMMENTS

Subsequent to comments summarized in the ESSA's March 16 notice (43 FR 11083), the ESSA has received comments concerning the matter of this proposal from non-governmental associations and individuals and comments from governmental agencies of most of the affected States. Some of these comments pertain to the ESSA's April 10 notice and May 1 hearing. Comments providing specific information on these species have been incorporated into the discussions of particular species below. However, certain more general comments are discussed.

As previously, the most frequent comment urged the ESSA not to allow export of one or more of the furbearing animals, but presented no information. A smaller but substantial number of comments from trappers and hunters opposed any restrictions on export. Our March 16 notice discusses these kinds of comments, and will not be repeated here.

Several comments specifically expressed concern that State wildlife

agencies had inflated reported harvest of the three animal species. We recognize that the harvests reported in our March 16 notice were in several cases substantially higher than those reported in previous years. We also recognize that accuracy in reporting harvest has varied widely from State to State, depending on the census method. used. However, several of the reported harvests given in our March 16 notice are higher than previous reports because this is the first year that the States involved have attempted a comprehensive estimate. For example, river otter harvests reported by Connecticut in previous years were based on harvest only on State-owned lands. The figure reported in the March 16 notice is higher than before, because it estimates harvest on all lands within the State. In several other States, for example, only trapped animals have been reported previously, even though as many or more animals are shot each year by hunters. Also, past harvest records have been based on admittedly incomplete reports from dealers or trappers. Many comments requested that these animal species be carefully censused in each State before any export is authorized. We are sensitive to this comment. However, we do not believe that our guidelines, published in the FEDERAL REGISTER on April 10, fall short of legitimate scientific conservations in determining that export will not be detrimental to the survival of these species.

MAY 1 HEARING

Spokespersons for six non-governmental organizations and two States testified at the May 1 hearing. The comments of the States' witnesses are incorporated in the species account below, whereas testimony of the other witnesses is summarized here.

Dr. Faith Campbell testified for the Natural Resources Defense Council (NRDC). Dr. Campbell expressed general support for the ESSA's guidelines of April 10. In particular, NRDC agreed that maintaining a species throughout its range at a level consistent with its role in the ecosystem, as stated by the Convention, is a goal similar to optimum sustainable population (OSP). NRDC also agreed that the ESSA must evaluate biological and management information comprehensively, and must evaluate data compiled by and management programs devised by the States. However, Dr. Campbell expressed concern that the guidelines would not be implemented effectively, for lack of information. She stressed that the ESSA should require detailed study and management before authorizing export, and must exercise independent judgement based solely upon the data. Dr. Campbell directed the remainder of her testimony to the Department of Agriculture's Animal and Plant Health Inspection Service, criticizing that Agency as having failed to enforce the Convention for plants.

Mr. Don Hoyt testified next for the National Trapper's Association. Mr. Hoyt accused the ESSA of having been motivated by the "anti-hunting, trapping, fishing faction in our country." He suggested that actions by the ESSA have hindered Federal/State cooperation. He thanked the ESA for motivating State agencies to implement fur management programs. He concluded by requesting the ESSA to drop its current initiatives and to establish "an ongoing progam for the management techniques and monitoring of appendix II species."

Ms. Ginger Merchant testified for Defenders of Wildlife. Ms. Merchant stated that the ESSA should find in favor of export only if it can determine that harvest is not detrimental. She supported the proposition that "not detrimental to the survival of the species" is conceptually similar to "optimum sustainable populations." She expressed concern over the "minimum biological requirements" referred to in the ESSA's April 10 notice, and recommended that each requirement be preceded with the words "reliable, scientific data concerning". She stated that the ESSA should not rely primarily on past harvest in arriving at its findings, because of the ambiguous meaning of the data. Ms. Merchant concurred with the desirability of the management initiatives discussed in the April 10 notice, but disagreed that such initiatives themselves may be enough for a finding of no detriment when biological data are lacking. Ms. Merchant then expressed dismay over findings in favor of export from several States, indicating that many quotas were not justifiable with available data. She also expressed concern for the possible trapping of lynx incidental to trapping bobcat. She concluded her remarks by commending both the ESSA and the MA for their efforts to implement the Convention.

Mr. William Rollow testified on behalf of certain major exporters and dealers of ginseng. Mr. Rollow stated that his clients believed ginseng did not belong on appendix II, but were anxious to cooperate with the ESSA. He stated that the status of ginseng is difficult to determine and will vary between States. He suggested that the ESSA work with the States to develop State authority to manage the species. In this regard, he pointed out that his clients have developed a model State law and have supported its introduction into various State legislatures. He added, however, that the export of ginseng should not be restricted as these initiatives are being implemented, alluding to the hardship that might be worker on many collectors. Mr. Rollow stated that export levels have increased, and that the species is not in any way threatened. He concluded by asking leave to submit a brief by May 15, 1978.

Ms. Greta Nilsson testified on behalf of the Humane Society of the United States and the Institute for the Study of Animal Problems. Ms. Nilsson criticized the ESSA for basing export quotas on reported State harvest, which she claimed had been inflated. She expressed support for the ESSA's April 10 notice. Ms. Nilsson stated that the river ooter had been trapped out of 14 States, and that trapping intensity is a function of pelt price. She asserted that data on territorial size, natural mortality and other "key" factors are necessary to assure survival of a species. She stated that these data are generally lacking.

Ms. Bianca Beary testified on behalf of the Society for Animal Protective Legislation. Her comments were directed primarily at the fur industry and at the effects of trapping. She pointed out that both reported harvest and pelt price of these species had risen in recent years. She reported that these increases were caused by increased demand for furs. Ms. Beary next discussed several reports of nontarget species being trapped incidentally. She stated that lynx may often be caught in traps set for bobcat, and may be injured even though released. Ms. Beary concluded her remarks with further discussion of rising fur prices, asserting that these species were being affected adversely by harvest.

Ms. Jacque Dean submitted testimony on behalf of the Sierra Club, although was unable to appear personally. Ms. Dean complimented the ESSA for improving the data base on bobcat, lynx, and river otter. She was critical of many State population estimates, however, and offered a maximum population estimate for each State, prepared by Dr. Irven H. Rinard. Ms. Dean stated that the price of bobcat and lynx pelts had dropped after the ESSA's August 30 notice, then rose again when export quotas were authorized. She stated that the ESSA had shown no concern for subspecies of bobcats, even though the species varies widely in status throughout its range. She stated in addition that only Maine had sufficient information on the species to allow the setting of a meaningful export quota. Ms. Dean concluded that the ESSA should be extremely conservative in the setting of export quotas.

The ESSA has considered carefully the comments of these witnesses, and of others who submitted comments on our April 10 notice. We are gratified to see the several statements of support. To the extent that we have been asked to carefully evaluate the reliability of the data we use, we will endeavor to

comply, as we have in the past. We will also continue our efforts to cooperate with State agencies, while recognizing our mandate to arrive at findings independently. We deeply appreciate the support of the ginseng industry in the conservation of that plant. However, we must remind that industry that we are to determine whether export will not be detrimental to the survival of that plant, and have no authority to expand the scope of this determination. We are sensitive to Ms. Dean's comments on the variable status of bobcat subspecies. However, we believe State-by-State determinations for this species should be adequate to account for variations in status between subspecies.

The Fur Resources Committee of the International Association of Fish and Wildlife Agencies (Committee) submitted a lengthy and critical comment on the ESSA's April 10 FEDERAL REGISTER notice. Less detailed comments addressing similar points were submitted by the National Wildlife Federation and the Wildlife Management Institute. Because of the significance of any statement made on behalf of State Fish and Wildlife agencies, and the importance of Federal/State understanding and cooperation, we will address the Committee's comment in detail.

Most of the Committee's comment is critical of the conservation objective set forth in the April 10 notice. The ESSA indicated in that notice that it must concern itself with the ecological consequences of harvest, as is expressly stated in article 4, par. 3 of the Convention. For clarification, the ESSA then discussed the concept of optimum sustainable population (OSP) as used in the Marine Mammal Protection Act (MMPA). Management at OSP requires consideration of the ecosystems in which the species occur, and the MMPA, with the Convention, is one of the few laws with this requirement. The United States has now had several years of experience with OSP, and consequently it was discussed by the ESSA. Because OSP developed, in part, from criticism of the concept of maximum sustainable yield (MSY), some discussion of this controversy was also in order, and the ESSA quoted a relevant passage from the Sixth Annual Report of the Council on Environmental Quality, based upon a series of workshops on the matter.

The Committee's most direct criticism of the ESSA's discussion on OSP and MSY is that MSY:

> • • • involved marine fish stocks and has no application to population management of bobcat, lynx, and river otter. Bobcat, lynx and river otter are not marine species nor do their populations congregate to form stocks as do certain marine species.

To substantiate the above assertion, the Committee quoted passages from two papers published by Dr. Lee Eberhardt, and pointed out that the quote in the April 10 notice from CEQ's Sixth Annual Report was taken from a section on fisheries management. The ESSA cannot agree with the Committee's distinction between "stocks" of marine species and "populations" of terrestrial species. The term "stock" as commonly used in fisheries and for marine mammals is no more than a word for population. As one example, the Marine Mammal Protection Act of 1972 states: "the term 'population stock' or 'stock' means a group of marine mammals of the same species or smaller taxa in a common spatial arrangement, that interbreed when mature." Sec. 3(11). This is a fairly typical definition of a biological population, and was adopted verbatim in the Endangered Species Act of 1973: "The term 'species' includes any subspecies of fish or wildlife or plant and any other group of fish or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed when mature." Sec. 3(11). The phrase in these definitions, "in a common spatial arrangement, that interbreed when mature," refers to the concept that biological populations have physical distributions, whether mountain range, State, or area of ocean, and that significant barriers to gene exchange are lacking within a population's distribution. These concepts are basic to modern ecology and evolutionary biology.

Although the concepts of OSP and MSY have been applied primarily to marine animals, this is more historical than biological. It is clear that marine animals undergo population changes as do terrestrial animals, often seasonal in nature. Marine species, just as terrestrial species, vary enormously in their reproductive potential and in the survival of offspring. We recognize that there are certain differences between terrestrial and marine systems, such as the degree of annual and spatial environmental variations, barriers to movement, and nature of food bases. However, a considerable body of research in population dynamics of a great diversity of organisms indicates that general principles may be applied to both terrestrial and marine organisms.

The two quoted articles by Eberhardt express concern over how ecosystem management can be implemented, a concern echoed by the ESSA in its April 10 notice. However, both articles are basically supportive of such an approach and they attempt to clarify it.

Likewise, the workshops cited in our quotation from CEQ's Sixth Annual Report were concerned with "wild living resources" in general, and not just with fish, as indicated by the Committee.

Undeniably, the concept of MSY has been applied primarily to marine species, and hence criticism of that concept has used those species as examples. However, there is no reason why terrestrial wildlife management, like management of marine mammals, should not be subjected to more comprehensive and potentially rigorous models than the notion of harvesting fall "surplus". This latter approach is often followed for fast-breeding small game and deer, and was suggested as appropriate for these furbearers by the Committee. However, recent research suggests that such an approach is not appropriate for carnivores that are a comparatively low reproductive potential and whose mortality patterns may not hinge on the "adversities of winter." In the cyclic lynx, for example, there may be virtually no juvenile recruitment during the latter years of population decline, and any removal of adults contributes more to that decline (Brand and Keith, Lynx demography during a snowshoe hare decline, unpublished manuscript, submitted to J. Wildl. Mgmt.). For the bobcat, most annual natural mortality (primarily juveniles in low prey years) may occur by the fall, before the winter and before most trapping (Bailey, Ph. D. Thesis, University of Idaho, 1972; Crowe, J. Wildl. Mgmt., 39: 408–415, 1975).

It is important to focus attention on basic objectives with a minimum of assumptions. The more appropriate question is not what is the harvestable surplus, but instead, to quote the New Mexico Game and Fish Department on bobcats, "What population level of bobcats can best accommodate trapping without causing extinction of the bobcat and without significantly altering the ecosystems they occupy?" This involves the "ecosystem" consideration of OSP and of article IV, par. 3 of the Convention. No doubt, the question is "in search of a definition", as the Committee has stated. But we must seek an answer to the question, nevertheless.

We believe that the first step to an answer can be found in the principles quoted from CEQ's report, and in the realization that MSY should be substituted with a more conservative model. We acknowledge the difficulty and uncertainty of this endeavor.

In its concluding remarks, the Committee asked the ESSA to explain why it had rejected recommendations of the New Orleans Working Group, cited in the ESSA's April 10 notice. With regard to automatic approval of export for tagged pelts, the Committee should be aware that actual issuance of export permits is by the Wildlife Permit Office, not the ESSA. Concerning biological and management standards, the ESSA did not reject these recommendations, but developed

them. We do not believe that it would be appropriate to do otherwise. The Working Group's recommendations are a sound outline, but no more than that. The choice of data requested by the ESSA is based on the Working Group's recommendations as well as on the ESSA's experience with data available from the States (see the Summary of Findings for the 1977–1978 Season, March 16, 1978, 42 FR 11081, especially pages 11086–87).

Michael J. Bean of the Environmental Defense Fund (EDF), with the assistance of two professional population ecologists, addressed several of these same issues in a comment on our April 10 notice.

EDF's comment is supportive of the ESSA's endeavors to clarify the conservation objective of the Convention. Although somewhat non-committal as to the ESSA's treatment of OSP and MSY, EDF suggests that a winter carrying capacity model, in the alternative "is of doubtful applicability to carnivores and is of even more doubtful utility in States where the severity of winter is relatively slight, the very States which seem to have the greatest abundance of bobcats."

EDF stated, in addition, that "regardless of the type of wildlife with which one is concerned, the same sorts of information, including age specific survivorship data and age specific fecundity data, are desirable for informed management."

EDF also pointed out that the information needs identified by the ESSA in its April 10 notice are consistent with the recommendations of the New Orleans Working Group. EDF stated that the "ESSA has provided the necessary operational specificity to the general standards recommended by the Working Group."

Wayne H. Matelski, attorney for the Ginseng Committee of the Herb Trade Association, submitted a lengthy comment on the ESSA's FEDERAL REGISTER notices of March 16, April 3, and April 10. As this comment discusses many of the points addressed in comments received by the ESSA since our August 30 FEDERAL REGISTER notice, we will address this comment in detail.

Mr. Matelski prefaced his comment by emphasizing the Committee's concern for the continued survival of American ginseng, although he added that many of the Committee feel:

> • • • that the conclusions concerning the endangered nature of the species, reached by the ESSA, do not have sufficient basis in fact. As such, the members feel the conclusions are in error and simply do not justify the drastic remedies proposed.

The ESSA recognizes that opinions differ as to whether American ginseng is endangered or as to whether the plant is properly included in appendix II to the Convention. The plant's status is under review by Canada, one of the parties to the Convention. In addition, the U.S. Fish and Wildlife Service is reviewing the plant's status to ascertain whether it should be proposed as endangered or threatened under the Endangered Species Act of 1973. However, as emphasized earlier, the ESSA, as the United States Scientific Authority, must make the findings required of it by the Convention before the Management Authority may issue export permits. The fact that a species is listed on appendix II does not necessarily imply restriction of export. Trade in appendix II species only need be limited if the scientific authority of the exporting country cannot find that export will not be detrimental to the survival of the species. Thus evidence on the status of these species in the United States is relevant primarily to the ESSA's responsibility to assure that trade will not be detrimental rather than to the listing of the species on appendix II by the parties to the Convention. The ESSA does not have authority to waive independently the Convention's requirements for appendix II species.

Mr. Matelski contended that all American ginseng dealers and exporters believe that "there are ample quantities of ginseng in existence today, and that, indeed, the supply in many areas is larger than at any previous time in this century." He referred to increases in annual exports over the last 20 years, and inferred that these export data "conclusively demonstrate that the amount of ginseng is actually increasing."

The ESSA recognizes that exports of American ginseng have increased in recent years. This is demonstrated by trade data available to us from the Bureau of Census. These official data do not differentiate between wild and cultivated roots; however, information from dealers and exporters suggests that wild roots comprise about one half the total number of pounds exported. One dealer stated orally that exports of cultivated roots were 145,000 pounds in 1975, 165,000–175,000 pounds in 1976, and 225,000 pounds in 1977. He considered these figures to be accurate within 10 percent. However, the recent increase in exports may only reflect increased demand or growth of the industry, rather than increased abundance of the plant.

To support further his assertion that American ginseng is increasing in abundance, Mr. Matelski referred to certain measures purportedly taken by collectors and dealers to ensure continued yield. The ESSA is aware of these practices. We have received many letters from collectors testifying that they adhere to these practices. However, most of these letters have been form letters, and we know of at least one magazine announcement and one dealer who have solicited specific comments from the collectors. Moreover, we have received many comments stating that diggers will harvest all the plants they can find, any time they find them, without regard to ensuring future yield. Although the ESSA applauds the endeavors of collectors to conserve this species, we have no information establishing that a majority or even a substantial percentage of collectors adhere to the practices referred to by Mr. Matelski. Furthermore, past experience suggests that such independent, voluntary efforts may be inadequate to protect a shared natural resource from over exploitation.

Mr. Matelski then referred to comments received by the ESSA from some State officials and some botanists, recommending that American ginseng be considered an endangered species. He suggested that these evaluations are questionable because of the lack of hard scientific data on the plant's biology. A few Federal officials, several state officials and many botanists have recommended that the plant be considered endangered, threatened, rare or otherwise vulnerable. Few of these comments are supported by any data. The ESSA recognizes that we need to know more about this species' biology.

Mr. Matelski continued by emphasizing that the inherent secrecy of the American ginseng trade contributes to scientific ignorance of the plant's status. He suggested that the alleged rarity of the plant is partially a result of this secrecy. He further noted:

> Once the "endangered" label has become attached to a species, however, no matter upon what basis, the burden of proof apparently passes to the industry to show that the species is not endangered. This involves developing a complete factual and scientific argument which, quite naturally, cannot be done overnight, especially in an industry such as ginseng where so little scientific knowledge exists and where accurate statistical data have never been collected.

As American ginseng is included in appendix II to the Convention, the ESSA must have supporting information before a finding of no detriment can be made. To help obtain such information, the ESSA has contacted numerous botanists, members of the American ginseng industry and State and Federal officials. The ESSA recognizes that it will take time to improve our understanding of American ginseng's biological status. Thus, we have encouraged the various ginseng producing States to develop programs to better establish the status of the species, and to effectively monitor and to appropriately manage its harvest.

Mr. Matelski next discussed efforts made by the Association's members to promote the conservation of the species and to encourage State conserva-

tion programs. He notes that where official State action "has been slow or lacking, the members have instituted, or proposed instituting, voluntary measures on their own." Noting the progress made by the Association members and the progress toward conservation programs in the States, Mr. Matelski suggested that exports should be approved for this fall. He further suggested that future exports should be contingent on action taken by the States next year.

The ESSA has received a petition from William J. Boehner Co., Inc., on behalf of itself and all exporters of wild American ginseng, to remove the plant from appendix II, or to permit export in the alternative. A copy of this petition has been forwarded to the MA.

We will address here those points raised by the petitioner concerning the ESSA's findings, excluding discussion of those points already discussed with Mr. Matelski's comment. The petitioner provided the following grounds for his request:

(1) Wild American ginseng is not endangered or threatened, nor likely to become so, nor is it in need of protection under the Endangered Species Act of 1973; (2) The annual export of said plant at levels of the prior year will not pose any danger to the continued well being of said plant in the United States; (3) Prohibition of exportation of said plant will prevent the orderly conservation of said plant by economically destroying the exporters and dealers who compose, through their efforts with the diggers thereof, the primary force promoting the continued well being of said plant and insuring its future availability; (4) Prohibition of exportation of said plant will cause severe economic injury to the various diggers, who for the most are in an economically depressed group; all of which are more fully set forth in the attached Memorandum.

In the attached memorandum, the petitioner asserted that there is no substantial evidence suggesting that American ginseng is endangered or likely to become so. As did Mr. Matelski, the petitioner suggested that qualitative information to the contrary are of questionable value, and asserted that export data refute the arguments that the plant is being overharvested or endangered in any way.

The petitioner also asserted that continued exploitation is not detrimental to the survival of American ginseng. The petitioner suggested that, lacking scientific data concerning the plant's status, exports should not be restricted. He asserted, referring to article IV 3 of the convention text, that the plant "is not currently at, nor has it ever been, at any critical level when viewing the United States as a whole." To substantiate this assertion, the petitioner listed the major ginseng producing States and noted that "many authorities" suspect that the plant is more abundant than is commonly thought by those unfamiliar with the plant in the wild. He also referred to certain harvest techniques which he believes have contributed to ensuring future yield. Finally, the petitioner warned that as the plant's phenology varies, "any national program attempting to set one uniform standard for the entire country is doomed to failure." The petitioner further warned that attempts to regulate the States will fail.

The ESSA recognizes that the plant's phenology varies, and also that its status varies from region to region. It is for these reasons, in part, that we have solicited comments and recommendations from the relevant States. Neither the ESSA, nor any other Federal agency, has the authority to regulate the harvest of this plant on private or State lands. Thus the responsibility for conserving the plant lies largely with the States and effective implementation of the Convention will require strong State/Federal cooperation.

The petitioner then suggested that as the exporters and dealers provide the primary impetus for conserving the plant, their business should not be destroyed. The petitioner referred to two elements needed for the conservation of the plant: Habitat and educated collectors. He asserted that available habitat is adequate. The petitioner considered the collectors as a major factor in maintaining the abundance of American ginseng. He suggested that the States should be encouraged to assess the plant's status and to manage the harvest. However, he maintained that an accurate inventory must be based on data gathered by collectors, dealers, and exporters. He then discussed efforts made by the industry to educate the collectors and to encourage State programs designed to conserve the plant. The petitioner suggested that if there is no market, collectors will have no reason to try and ensure continued yields.

The petitioner also suggested that an export embargo will cause undue injury to low income people. Again referring to the purported conservation contribution made by collectors, the petitioner called attention to those collectors whose income, in part, is derived from the harvest and sale of the plant.

Concluding, the petitioner recommended that the plant be deleted from appendix II. Failing that, he requested that exports be allowed at current annual levels, conditioned upon the "bona fide" efforts of the major exporters and dealers to:

(a) Attempt to secure appropriate enactment by the pertinent States (which do not already have conservation programs for Panax q. of enabling legislation);

(b) Disseminate information on the wise method of digging (and replanting) of Panax q. and encourage its conservation;

(c) Voluntarily retain import records revealing the amount shipped, such to be supplied to ESSA;

(d) Impose voluntary program of self-policing with standards to be jointly arrived at between the respective States, ESSA, and the industry; and

(e) Call for a future re-evaluation of this program to be made within 3 years from date."

Noting that the enumerated suggestions are already being pursued by the industry, the petitioner warned that a selective "embargo aimed at the roots dug in certain States in unworkable.

Alternatives and Environmental Impacts

Introduction

This section sets forth proposed standards and evaluates the potential environmental impacts of general ESSA findings on export of those four species in 1978–79. Analysis is made of impacts resulting from standards that would result in essentially no export at present and standards that would potentially result in unlimited export. Given the degree of difficulty in predicting the environmental impacts of any standards and findings on export, an analysis of extremes would appear to be called for, providing the clearest possible resolution of the alternatives. The section closes with a description of the standards proposed.

This section is intended to satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321–4347, which directs Federal agencies to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the nation may:

(1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

It is apparent that the ESSA's findings on detriment do not require the same degree of scrutiny under these provisions as do a wide variety of Federal actions that are not taken to ensure environmentally protective goals. As noted above, the ESSA deci-

sion making process focuses on the ecological consequences of export levels. The goal is an environmentally protective one; export is to be restricted to assure the species are maintained at a level consistant with their role in the ecosystems in which they occur. There is sensitivity to environmental amenities in ESSA decision making regardless of NEPA requirements. Unlike construction projects, agriculture, and other endeavors intended to serve goals other than environmental, for which NEPA ensures that environmental factors are considered by decisionmakers, findings on detriment are required in order to ensure directly that populations and ecosystems do not suffer from trade. It would be redundant to superimpose a detailed environmental statement onto a finding concerning detriment, that itself requires consideration of environmental factors. Consequently, we have not prepared a separate detailed environmental impact statment, but instead have prepared this analysis as an integral part of our findings.

ECOLOGY

The ecology of all four of these species is poorly understood. The bobcat is a secretive animal, widely distributed across the lower forty-eight States and occupying many habitat types. Population size has been estimated by 22 States, for a total of 616,000 animals. However, with few exceptions, these estimates are not based on recognized scientific census mehtods, and little confidence can be placed in them. There is apparent regional variation in the status of the bobcat across the United States. The species is reported to be common in the South, with highest densities in the Southeast. The animal is generally uncommon or absent in a zone extending west from the Mid-Atlantic region through Iowa and Illinois. Status of the bobcat is variable and somewhat uncertain throughout most of the Northeast, and similar but apparently more secure in the Great Lakes States. Populations in the northwestern States apparently have been significantly impacted by trapping; however all these States but Wyoming have conferred greater protection on the species in response. Besides Wyoming, agencies in only New Mexico and Texas currently lack general legislative authority to conserve the species. More detailed information on State populations is given below and in the ESSA's notice of March 16 (43 FR 11081).

Bobcats may breed at one year and have annual litters of two to three young. Adult mortality was extremenly low in one study, but that was in a population that had been heavily trapped.

Trapping is one of several factors affecting populations. Although bobcats are broad spectrum carnivores, rabbits are the primary prey and population size may vary with the abundance of lagomorphs. Habitat is an important factor in bobcat abundance. The species appears to persist near settlements, but has disappeared from many areas that have been farmed intensively or urbanized.

On the other hand, the species appears to be recovering in areas returning from farmland to forest.

The bobcat's influence on other species is essentially unknown. Bobcat kittens may be taken by coyotes, and several reports have suggested that bobcat numbers increase when coyote abundance drops. Competition for common prey, especially lagomorphs, may play a role in this relationship.

The bobcat sometimes preys on rodents, and may benefit agriculture by this behavior. The bobcat also preys occasionally on poultry and livestock. As a consequence, the species is taken by both Federal and State animal damage control programs in several States. We have little information on State control programs. Reported Federal bobcat take is currently a minor component of total harvest, amounting 1,151 animals in 1977.

The lynx is widely distributed across northern North America, but rare in the United States except for Alaska and a few border States. Populations fluctuate dramatically in the northern part of their range, following fluctuations in abundance of snowshoe hares. There are no population estimates available, however the species is rare in several States where it once was more common. In much of Canada, and presumably in Alaska, harvest apparently has little or no measurable effect on populations during cyclic increase of hares. On the other hand, harvest may contribute to essentially uncompensated decline during hare decrease, when successful juvenile lynx recruitment may be very low. However, trapping and habitat loss are apparently only locally significant in Alaska at this time. The status of the species in the lower 48 States is less certain. Major cyclic immigrations from the North occur in midwestern and western border States, at times of maximum population in Canada. These cyclic influxes apparently are superimposed on small, local breeding populations, that may or may not be cyclic. Harvest of cyclic immigrants is presumably of little ecological significance, but unregulated harvest of local breeding populations, especially at times of low or declining population, might be adverse to the reproduction of the species in its southern range. Habitat loss apparently has contributed to the decline of the species in several States. Other than its relationship to snowshoe hare populations, significant relationships to other species are undescribed.

The river otter is distributed throughtout North America, although in the United States it is absent from much of the southwest and central regions. Only seven States have estimated population size, ranging from an estimated 30-60,000 in Lousiana to an estimated 500 in Nevada. For the same reasons as for the bobcat, these estimates must be considered uncertain. The river otter is now absent or very rare in several States where it was formerly more common. Several of these States are considering means to reintroduce the species, for example Colorado, New Mexico, and West Virginia. Unlike the bobcat and lynx, river otters normally do not reproduce until their second year. Two or three young are typically born per annual litter. Trapping may have been a factor in past declines of river otter in several States. However, available data, albeit limited, generally do not give cause for concern over the impact of current harvest in States where harvest is allowed. The river otter is particularly sensitive to habitat modification, because it is restricted to aquatic ecosystems that are readily and frequently modified. In addition, the river otter is a high trophic level predator and may accumulate chlorocarbons and heavy metals in its tissue when they are present in the environment, possibly affecting these populations adversely. Just as for the bobcat and lynx (excluding interaction with the snowshoe hare), no substantial account is currently possible for river otter interactions with populations of other wild species. Several States have reported that otter populations are increasing because growing beaver populations have created more suitable habitat. In addition, individual river otters reportedly may impact intensively cultured fish populations, such as hatchery stock.

American ginseng is restricted to 32 States in the eastern half of the United States and adjacent Canada. The plant has been gathered for export since the early 18th century. There are numerous conflicting opinions concerning the status of the plant. Many botanists, State and Federal officials, and some collectors and dealers consider the plant endangered, threatened, rare, or otherwise in jeopardy. In contrast, other individuals, such as most collectors and dealers, believe that the plant's status is stable or improving. About 12 States provide a large percentage of the harvest. Exports of both cultivated an wild American ginseng have increased in the last decade to about $26 million in 1977. There are no conclusive data establishing whether the harvest can be sustained.

ALTERNATIVES

The alternative extremes of standards for ESSA findings can be charac-

terized as those that would lead to no export and those that would lead to export without restriction by the ESSA. Although such extremes may not square with the Convention's provisions, discussion of them may best define the limits of the ESSA's discretion in making decisions that impact the environment. As should become evident, this discretion is narrow if not undefined.

No Export. Informal estimates place exports at 95 percent or more for American ginseng and river otter, and 80 to 90 percent for bobcat and lynx. For bobcat, in particular, there may be substantial domestic use or waste, particularly in the South where pelts are less valuable.

Prohibition of export probably would reduce the harvest of all four of these species. An initial question, as yet unanswered, is the extent to which legal prohibition would actually affect exports. If such prohibition were effective, the commercial digging of American ginseng might virtually cease. However, there is a growing market for ginseng within the United States, and our lack of information on the supply function for this commodity leaves this conclusion to be viewed with circumspection. Furthermore, some roots are dug for personal consumption and even to be replanted in plots for aesthetic purposes. Because most river otter pelts are exported, embargoing export would most likely lower wholesale pelt price in the United States. However, many river otters reportedly are taken incidental to beaver trapping, and this proportion of the harvest presumably would be unaffected by an export embargo. Pelt price of bobcat and lynx apparently would also drop if export were embargoed, as seems to have occurred temporarily in the fall of 1977. For none of these species, however, do we know to what extent supply, or harvest, depends on price, nor do we have information on the capacity of our domestic market to expand if export were not possible. In addition, potential exists for domestic stockpiling if export were not possible, but the extent is unknown.

Despite these uncertainties, populations of these species probably would increase in abundance, at least in some areas, if export were not allowed. For American ginseng, particularly, the plant might recover to normal levels in certain areas where it is said to be depleted. Perhaps in the Northwest, and particularly in Wyoming, an export embargo might facilitate recovery of the bobcat in depleted populations. However, all of this region's States, except Wyoming, have taken regulatory action to conserve the species, and the effects of an embargo might be superfluous to their conservation. Export or even harvest embargo during cyclic population increase might have little effect on lynx populations in Alaska. However, such an embargo might substantially decelerate cyclic population decline in those local areas that are significantly exploited. The same may be true of the lynx in the lower 48 States, although the population dynamics of the species there are less understood. Export embargo would appear at most to have a minor effect on river otter populations, for which there is little evidence of current population stress from harvest. It should be kept in mind that many States protect one or more of these species by law, and no exports would be authorized for these States in any event.

It is not possible to describe with any confidence the environmental impacts of an embargo on export of these species, even if population increase were to result. It is also unknown to what extent such increases might affect populations of other species of the affected ecosystems. Because these animal species are carnivores and none of them have the high reproductive rate of certain herbivores, no dramatic fluctuations in their numbers would be likely even if the effects of harvest were removed completely and populations were left to other limiting factors of their environment. Individuals would presumably be seen more frequently, and could be more easily taken. We hnow of no reliable evidence that unexploited densities of these species would lead to a significant increase in the frequency of rabies or other disease. Bobcat depredations of poultry and livestock might increase in some localities, but the overall magnitude of this depredation probably would be minor.

No ESSA restriction on export. The environmental consequences of no export restriction by the ESSA are uncertain. First, there is some internal limitation of harvest of the three animal species within every State in which they occur, except for the bobcat in New Mexico, Texas, and Wyoming. The same cannot be said for American ginseng, whose harvest is regulated in only a few States, most of these in order to satisfy the ESSA's needs.

Second, other Federal decisions may restrict export, independently of the ESSA. In any event, Federal export permits are required for appendix II species. Before such permits are issued, the MA must be satisfied that pelts and roots were not taken in contravention of State law. This finding would presumably preclude export from the States that protect these species, irrespective of ESSA findings. Consequently, and provided that the Convention is enforced effectively, the maximum exports of pelts and roots will be those from States that allow harvest and export, consistent with terms prescribed by those States. Except for ginseng, and the bobcat in the three States referenced, export, and possibly harvest, may be substantially less than would be the case if these Convention restrictions were not present.

Failure of the ESSA to restrict American ginseng export from States without reasonable conservation programs could lead to continued or future depletion of the species, and even to extirpation. The same possibility exists for bobcats in New Mexico, Texas, and Wyoming, although the species apparently remains common in at least the former two States. Any significant effect such declines might have on other species is uncertain. If competition between coyotes and bobcats is significant, as has been hypothesized, coyote populations might increase to some extent. Any significant effect on bobcat prey is purely speculative. However, American ginseng and bobcat may become less visible and less harvestable, if not absent, from local areas of suitable habitat.

Restricting export of these species from States with reasonable conservation programs is likely to contribute little to the conservation of these species, and may hinder development of data necessary to understand the impact of harvest. The information on age structure of furbearers developed by several States and described below, for example, require adequate samples of animals and cooperation with trappers. On the other hand, such programs must be well designed and implemented if the data they gather are to contribute genuinely to the species' continued survival at a level consistent with their role in the ecosystem.

Proposed standards. The ESSA proposes to adopt the guidelines for its findings on detriment as set forth in its notice of April 10 (43 FR 15097). These guidelines are intentionally general; a combination of biological information and management initiatives can potentially satisfy the ESSA that export will not be detrimental to a species' survival, and the ESSA does not want to constrain unnecessarily State agencies in the manner by which they may endeavor to meet our needs.

The ESSA proposes to approve export without Federal quotas for 1978–79 harvest of those State populations of bobcat, lynx, and river otters meeting the following minimum requirements recommended by the New Orleans Working Group, as discussed and construed in the ESSA's notice of April 10:

Minimum requirements for biological information:

1. Population trend information * * * the method of determination to be a matter of State choice.

2. Information on total harvest of the species.

3. Information on distribution of harvest.
4. Habitat evaluation.

Minimum requirements for a management program:

1. There should be a controlled harvest * * * methods and seasons to be a matter of State choice.
2. All pelts should be registered and marked.
3. Harvest level objectives should be determined annually.

Some State wildlife agencies meet these recommendations except for the failure to specify a harvest level objective. Provided that an approximate harvest can be predicted based upon past reported harvest and past and planned harvest controls, the ESSA does not propose to require an explicit harvest level objective for export approval in 1978–79.

The ESSA also proposes to approve export without Federal quotas from certain State populations of bobcat, lynx, and river otter for which one or more recommendations of the Working Group have not been met adequately, if at all. We have made these proposals only because we consider other information sufficient for a finding of no detriment. For example, information on high density from certain southern States, although not rigorous, suggests that less thorough management than in other States may provide as much assurance that export will not be detrimental. However, we look forward to adoption of these recommended minimum requirements by every affected State.

The ESSA proposes to approve export subject to Federal quotas for States whose wildlife agencies lack authority to limit bobcat harvest, where those agencies have implemented substantial programs to evaluate the impact of harvest, and can by these and other means demonstrate that export subject to a quota in 1978–1979 will not be detrimental to the survival of this species in their State. It should be clear that this situation cannot be continued indefinitely. The New Orleans Working Group has recommended:

> No pelt from any of the three species should be allowed into international export if it was taken in a State in which the wildlife management agency does not have the authority to regulate the taking of the species.

However, the ESSA does not believe at this time that an inflexible position on this issue is appropriate. Failure of the ESSA to approve any export from these States might cripple fledgling research programs, where the incentive to obtain tags for export serves as a device for the State agencies to obtain carcasses and to evaluate harvest. Furthermore, at least one such state has produced substantial biological information indicating a viable bobcat population.

Only three States remain whose wildlife agencies do not have authority to limit harvest of bobcat. None apparently will have the opportunity to obtain full legislative authority over the species before our 1978–1979 export findings are made. However, all apparently will have such an opportunity before the 1979–1980 season. Although we propose to approve limited export in 1978–1979 for States in this category, we are concerned about the status of the bobcat in these States, and our proposal to approve limited export in 1978–1979 should not be construed as a precedent for approval in the future.

The ESSA proposes to approve export of American ginseng from those States that have implemented substantial programs to conserve the species, and which available information indicates have populations capable of supporting a sustained commercial yield. Acceptable conservation programs generally must include some form of research and regulation. However, the ESSA recognizes the recency of wild plant management in many States, and the frequent lack of management authority in State agencies. Consequently, we propose to approve export from certain States whose management agencies lack authority to limit harvest, where those States have substantial plans for 1978 under existing authority, and are currently supporting sustained commercial yield of the plant. Several State agencies which lack express authority, but are developing programs to conserve this species, anticipate seeking additional authority from their legislatures. The ESSA wishes to be supportive of new State programs; however, as with the furbearers, our proposal to approve export for roots harvested in 1978 should not be construed as a precedent for approval in the future.

A number of State agencies did not supply the ESSA in time for this proposal with information concerning the past season or their management programs for 1978–1979. We have not proposed to approve export in these instances. However, many of these State agencies have indicated that additional information will be forthcoming, and our final determinations in September will reflect this information and any other comment on our proposal.

The environmental impacts of these proposed standards, if finalized, would fall between the extremes of "no export" and "no ESSA export restrictions," as discussed above. Given the uncertainty in distinguishing impacts of these extremes, it appears superfluous to attempt a separate analysis for the standards. The no detriment finding affects the human environment only in an indirect manner. The environment will be affected by these findings only to the extent they bring about a change in harvest. As indicated above, these indirect environmental impacts are uncertain both in existence and in scope because of various intervening factors. Thus, we are led to the conclusion that this proposal if finalized would not be a major Federal action "significantly affecting the quality of the human environment" within the meaning of section 102(2)(C) of NEPA.

TABLES: BOBCATS AND OTTERS

The following tables summarize by State the recent information we have received for bobcats and river otters, and present the ESSA's proposed findings concerning export from those States. Lynx are treated separately for those States having an open season; in all other States, lynx either do not occur, are rare, or are protected. The ESSA recently published a summary of State population estimates and past harvest reports for these species in the March 16, 1978 FEDERAL REGISTER. Because there are few changes to report for those data, they are not repeated here. That FEDERAL REGISTER notice should be consulted for data relevant to the current findings.

Description of the table categories follow, along with explanations of abbreviations used.

State classification. The type of management provided by a State wildlife agency is often defined by an official category to which each species is assigned. Because State definitions of the same word may differ, the labels here may not correspond exactly to that found in a State's regulations, but the intent has been retained (e.g., "Protected" is used by some States to indicate species which the agency has authority to regulate, while other States use the word to indicate a species for which there is no open season).

P=Protected: There is no open season for 1978–1979. The species may be on a State list of endangered wildlife, or there may be a temporary moratorium.
X=Not present: The species may never have occurred there, or may have been extirpated in historical times.
F=Furbearer: Taking is allowed under State control and pelts may be sold.
G=Game: Hunting is allowed under State control. In some, but not all States, this may include trapping and sale of pelts.
R=Regulated: The State wildlife agency has authority to regulate taking. This may include furbearer and game as well as other classifications.
U=Unregulated: Authority to manage the species has not been granted to the State wildlife agency by its legislature.

Quota given, 1977–1978. State export quotas listed here represent the maximum number of pelts of that species for which export was approved by the ESSA in the 1977–1978 season, as reported in the March 16 FEDERAL REGISTER notice. Two States provide the additional information or management

initiatives needed for a positive finding subsequent to publication of that notice. These States were given quotas after March 16, and those quotas are indicated by an asterisk(*). Not all States were assigned quotas, and these are indicated by symbols:

P=Protected; X=Not present: As in the State classification column. Assignment of a quota to these States for the season would have been inconsistent with State conditions.

NS=None set: No quota was assigned for that State.

Reported harvest, 1977-1978. The State's reported harvest for the 1977-1978 trapping season. In certain cases (see abbreviations below), more than one reporting system was used, and the differing reports are given with appropriate designations. Problems of comparing harvest reports made by different systems are discussed in the March 16 notice.

NC=Not compiled: State has not finished collection of harvest data. In most cases this is in progress, and the ESSA anticipates receiving these data soon.

TR=Trapper report: Mandatory report by trapper of each kill. In most cases this includes tagging of the pelt by a State official. This is generally considered the most reliable measure of harvest.

HR=Hunter report: Mandatory report by hunter (as for trapper).

DR=Dealer report: Mandatory report by fur dealers in State of all furs bought and sold. Such reports may be misleading when no distinction is made for skins originating in one State and sold in another. Multiple sales of the same pelt can also reduce accuracy of this method.

TS=Trapper survey; HS=Hunter Survey; DS=Dealer Survey: Voluntary survey or reports from a sample of trappers, hunters, or fur dealers. Results of these are commonly extrapolated, with a wide range of reliability, depending on attention to statistical limitations.

ADC=Animal damage control: Report of predator control operations.

ET=Export tag: Prior to setting of export quotas for 1977-1978, States committed themselves to issuing a limited number of tags, numbered and identified by State of origin (exceptions: otters from Maryland, Massachusetts, and Michigan). For a number of reasons, many States either were unable to limit the number of regularly issued tags or were unable to require mandatory tagging for that season. To solve this problem, many issued a limited number of special tags. Reports from several parts of the country indicate that prices offered for pelts bearing valid export tags were markedly higher than for untagged pelts, suggesting a reasonably strong incentive for tagging of pelts even where voluntary.

(##%)=Estimate of completeness of report: A number of States were still in the process of collecting data, and were unable to provide final figures in time for the present proposal. Where a percentage is given, it indicates the State's estimate of the completeness of their report (i.e., percent of trappers or dealers reporting, etc.).

Recent changes in management. Important considerations in the ESSA's proposed decision not to apply quotas to all States for 1978-1979 are the recent changes in many States' management of these species, especially for the bobcat, in areas where problems may have occurred. Most of these changes are seen as ensuring a more conservative harvest or providing better information for management. The list provided here is sure to be incomplete, but provides a summary of many changes described to the ESSA.

Findings and conditions for 1978-1979 season. The ESSA's proposed findings concerning export of pelts from the coming trapping season are given here. The rationale for approving export from certain States without use of quotas, as were used in 1977-1978, has been explained above. These are proposed findings, and the ESSA anticipates changes as further information is received. Publication of final findings is planned for about September 1. The proposed findings are abbreviated as:

A=Approved: Export is approved for pelts legally taken during 1978-1979 season. The ESSA considers that expected harvest under the State's planned management regime will not be detrimental to the survival of the species in that State. Pelts must be clearly identified as to State of origin and season of taking.

Q: ####=Quota: Exports from this State are approved for pelts taken during the 1978-1979 season, on the condition that exports are limited to the specified quota, and pelts are clearly identified to State and season.

NEA=No export approved: Explanation given in "comments" for the State.

NDR=No data received; IDR=Incomplete data received; no export approved: Data for the 1977-1978 season and current management plans not received by the ESSA in time for inclusion here, or are not complete. Proposed finding concerning export will be reconsidered if such data are received during the comment period. In most cases, these data are currently being prepared by State officials and are expected to arrive soon.

P=Protected, or X=Not present; no export approved: As in State classification column. Approval of export for 1978-1979 season would be inconsistent with current State conditions.

Comments. Other information relevant to the finding is given here.

BOBCAT

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
Alabama	R	4,000	[illegible]		5/77-Trapper report required.	[illegible]	Research in progress. Night hunting and electronic calls prohibited.
Alaska	X	X				X	
Arizona	R	8,000	4,992	ET	'76-'77-Trapping permit required. '78-Substantial increase in trapping fees.	R	Take apparently reduced by weather conditions.
Arkansas	F	3,000*	[illegible]	[illegible]	7/78-Changed from Game to Furbearer status, license required to take (except for landowner and those under 16) or buy, season reduced.	IDR	May require tags '78-'79. Some carcass collection and study.
California	R	6,000	5,111 15,000 208	ET MS (1977) ADC	'76-Season shortened, trapping license required to sell pelts. 11/77-Tags required for export from State. Reports required for take of depredating bobcat.	R	Research in progress, including development of census techniques. Hunter survey based on small sample, may include many of tagged animals.
Colorado	R	4,000	1,300 [illegible] [illegible]	ET TS [illegible]	'75-First restrictive season. 12/77-Management goals changed to emphasize value of resource and de-emphasize predator control.	IUN	Report prey increase since '75. Harvest probably greater than represented by export tags.
Connecticut	P	P				P	
Delaware	X	[illegible]				[illegible]	
Florida	R	3,500	678 [illegible]	[illegible] ET	7/78-Restrictive season for trapping, possession, and sale of pelts. Tagging mandatory for sale. Enforcement of dealer reporting requirement to be strengthened.	[illegible]	Steel traps prohibited except for "destructive furbearing animals" under permit. Substantial research planned.
Georgia	R	4,000	2,793	DR(93%)		[illegible]	Relatively constant harvest.
Hawaii	X	X				[illegible]	
Idaho	F	1,475	776	ET	'77-Furbearer classification. Season reduced from year-round to 1 mo., no exposed baits, license required to take.	R	Research in progress.
Illinois	P	P				P	
Indiana	P	[illegible]				[illegible]	
Iowa	P	[illegible]				[illegible]	
Kansas	[illegible]	[illegible]	2,145	TS	'78-'79-Pelts must be registered and tagged before sale.	[illegible]	Starting age structure analysis. Preliminary data suggest population is expanding. License required to take; trapping license required to sell.

BOBCAT

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	Reported Harvest '77-'78 How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
Kentucky	P	P				P	
Louisiana	P	4,000				NDR	Recent research. Research planned and in progress.
Maine	P	500	389	TR,HR	'75-Detailed management plan. '78-reduced trapping and hunting seasons.	A	New population range estimate: 2,431-5,015. Regulations allow for local closure during season if excessive harvest detected.
Maryland	P	P				P	
Massachusetts	G	50				NDR	
Michigan	P	350*	331	TR,HR	'77-78-Season open only in Upper Peninsula.	A	Severe winter may have reduced harvest. Tagging required.
Minnesota	P	150	103 86	TR,HR ET	'77-Agency given authority to regulate. Season restricted to 2 months, season bag limit set at 5 (combined with lynx).	A	Carcasses collected for research. Other research in progress. Illegal to use snowmobiles or ATV's for running trapline.
Mississippi	P	4,000	NC			IDR	
Missouri	P	P				P	
Montana	P	1,070	616	TR,HR	'77-'78-License and special permit required to take, season, bag limits set, tagging required.	A	Furbearer research to start, '78. Reduced harvest attributed to more conservative management. Severe winter may have contributed locally. Possibly some untagged pelts sold in Canada.
Nebraska	R	400				NDR	
Nevada	R	2,225				NDR	
New Hampshire	P	P			2-year moratorium.	P	
New Jersey	P	P				P	
New Mexico	P	6,000	4,416 4,606	ET TS	'77-Tags made available by agency, although authority not given by legislature.	Q:6,000	Population model suggests slight increase in numbers.
New York	P	225	74 80-90 20	TR,HR TR,HR(ADJ) ET	'77-Tagging and report required. '78-Trapping and hunting season reduced in south. Trapping season substantially reduced in north.	A	HR may be incomplete because first year of tagging. Many apparently taken incidental to deer hunting and retained for taxidermy. Age structure suggests good reproduction and low harvest pressure.
North Carolina	R	800	800 593	ET DR	'77-'78-Tags supplied to dealers. '78-To improve dealer reporting system. Plan to review all game laws.	A	Cold weather may have reduced take. Research planned.

BOBCAT

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	Reported Harvest '77-'78 How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
North Dakota	F	165	61	ET	'77-Voluntary tags applied by Departmental personnel for dealers. '78-Will encourage tagging at trapper level rather than dealer.	A	Harvest survey and carcass collection planned.
Ohio	P	P				P	
Oklahoma	F	0	NC	DR	Furbearer study started '77. Reviewing regs.	IDR	
Oregon	F	3,000	2,930 NC	ET TR,HR,DR	10/77-Dept. given reg. authority, E. Oregon closed, season set for W. Oregon, reports required of hunters, trappers, and dealers.	A	
Pennsylvania	P	P				P	
Rhode Island	P	P				P	
South Carolina	G	0				NDR	Not legal to sell pelts in '77-'78 season.
South Dakota	F	500	0+	TR,HR	'77-'78-Tagging by Cons. Officer required. Season shortened to restrict take.	A	Biological data being analyzed. Apparent increase in prey. Heavy snow may have contributed to low take.
Tennessee	R	1,000	597 [illegible]	ET ET(ADJ)	Hunter limit of 1.	A	Licenses required to take or buy. Dealers required to report.
Texas	U	10,000				IDR	
Utah	P,U	P			6/76-Taking and possession illegal except for predator control.	P	'75-Authority to regulate given to Utah State Agricultural and Wildlife Damage Prevention Board.
Virginia	R	1,500				NDR	
Washington	G,F	6,000				NDR	
West Virginia	F	000	535 150	TR,HR ET	'77-'78-Mandatory reports by hunter/trapper; data and carcasses collected.	A	Research started on carcasses and jaws. Habitat inventory to start.
Wisconsin	F	300	163	TR,HR	'78-79 season to be reduced by 6 weeks.	A	Mandatory reporting since '70. Research being considered.
Wyoming	U	2,000				NDR	
Navajo Nation	G,F	000				NDR	

OTTER

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
Alabama	F	1,500			5/77-Trapper report required.	MOR	Research in progress.
Alaska	F	Open	1,981	TR(90%)	'77-'78-Tag & report required for all otter taken.	A	
Arizona	P	P				P	
Arkansas	F	400*				MOR	May require tags, '78-79. Some carcass collection & study. May study status.
California	P	P				P	
Colorado	P,X	P,X				P	Efforts being made to reintroduce.
Connecticut	F	100	63	ET	'78-'79-Tags required on all otter taken.	R	
Delaware	G	50				CLOSED	
Florida	R	6,000	1,707 3,326	DR ET	7/78-Possession and sale of pelts restricted to trapping season. Tagging mandatory for sale. Enforcement of dealer reporting to be strengthened.	R	Steel traps prohibited except for "destructive furbearing animals" under permit. Substantial research planned.
Georgia	G	4,000	3,097	DR (93%)		A	Relatively constant harvest.
Hawaii	X	X				X	
Idaho	P	P				P	
Illinois	P	P				P	
Indiana	P,X	P,X				P	
Iowa	R	0				NCA	Very rare; State may protect.
Kansas	P	P				P	
Kentucky	P,X	P,X				P	
Louisiana	F	7,500			'76-'77-State quotas set for certain management areas, certain other areas closed.	MOR	Research in progress.
Maine	R	500	675	TR	'75-Detailed management plan. '78-Season reduced and made identical to land trapping season, reducing trapping opportunity.	R	New population estimate, 7,108. Most otter trapped incidental to beaver trapping.
Maryland	R	165				MOR	

OTTER

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
Massachusetts	R	68				NDR	
Michigan	F	810*	660	TR		A	Severe winter reduced both otter and beaver harvest. Special license and tagging required. Southern third of State closed, as well as other local closures. Bag limit of 1.
Minnesota	R	700	492	ET	'77-Season changed from spring to midwinter. '78-Plan to make tagging mandatory.	A	Bag limit of 3. Research on census techniques in progress. Snowmobiles and ATV's illegal for running traplines.
Mississippi	F	350	NC			IDR	
Missouri	P	P				P	
Montana	F	36	40	TR	Bag limit of 1.	A	Furbearer research starting, '78.
Nebraska	P,X	P,X				P	
Nevada	R	0				NLA	Very few in State, no data to support export, and no request by State for export.
New Hampshire	F	200	NC	TR		IDR	Plan furbearer survey next winter. To hire additional furbearer personnel.
New Jersey	P	P				P	
New Mexico	P	P				P	
New York	F	700	467 500±20	TR TR(ADJ)	'78-Trapping season reduced.	A	No change in age structure over previous. Reduced spring harvest due to heavy snow. High correlation (10-yr.) between otter and beaver harvests. Take per trapper constant over 10 years.
North Carolina	F	1,200	1,200 927	ET ET	'77-'78-tags supplied to dealers. '78-To improve dealer reporting system. Plan to review all game laws.	A	Research planned. Cold weather (ice) probably reduced take.
North Dakota	X	X				P	
Ohio	P	P				P	
Oklahoma	P	P				P	
Oregon	R	335	300	ET		A	
Pennsylvania	P	P				P	

OTTER

State	Classification	Past Quota '77-78	Reported Harvest '77-'78 Number	How Reported	Recent Changes In Management	Findings & Conditions for '78-79 Season	Comments
Rhode Island	R	15	15+ 8	TR(50%,ADJ) ET	State may tag all pelts before sale, '78-'79.	A	
South Carolina	G,F	650				NDR	
South Dakota	P	P				P	
Tennessee	P	P			On State's threatened list, '74.	P	
Texas	F	F				NEA	No export requested by State, research in progress.
Utah	P	P				P	
Vermont	R	50				NDR	
Virginia	R	585				NDR	
Washington	F	770				NDR	
West Virginia	P,X	P,X				P	
Wisconsin	F	1,200				NDR	5-year research program starting.
Wyoming	P	P				P	
Navajo Nation	X	X				X	

LYNX

Only five States have open seasons for lynx, so their data are summarized here rather than in a complete table. Information for each State is given in the same order as used in the tables for bobcat and river otter. As for bobcat and river otter, the March 16 FEDERAL REGISTER notice should be consulted for further information concerning populations.

The following States protect lynx, although not all have resident populations: Colorado, Connecticut, Maine, Michigan, New Hampshire, Utah, Vermont, Wisconsin, and Wyoming.

The following States have a limited open season for lynx, tag all pelts, and have other restrictive regulations:

Alaska: 1977-1978 quota, open. Harvest (TR, HR, 90 percent), 1,620. Mandatory sealing for all lynx pelts started in 1977-1978 season. Finding: A.

Idaho: 1977-1978 quota, 25. Harvest (TR, HR), 21; (ET), 15. State wildlife agency given authority, 1976; season and bag limits set, 1977. Tagging is mandatory. Finding: A.

Minnesota: 1977-1978 quota, 25. Harvest (TR, HR), 21; (ET), 15. Agency given authority to regulate, 1976. Restrictive season, bag limit (with bobcat) of 5, tagging mandatory, 1977. Currently report increasing population. Finding: A.

Montana: 1977-1978 quota, 200. Harvest (TR, HR), 24. License required to take, report and tagging required, bag limit of two (with bobcat), 1977-78. Severe winter and more restrictive regulations contributed to decreased harvest. Finding: A.

Washington: 1977-1978 quota, 35. New information not yet received. Finding: NDR.

TABLES: AMERICAN GINSENG

The following tables summarize by State the information concerning American ginseng received by the U.S. Fish and Wildlife Service and the ESSA. Only those States where the plant has been known to occur are listed. Many States have recently initiated programs to better establish the status of this species, to monitor its harvest, and, in some cases, to manage its harvest. Without such State programs it is doubtful that adequate information would be available to support approval of export by the ESSA.

Description of the table categories follow, along with explanations of abbreviations used. More detailed State-by-State summaries of comments are available from the ESSA.

State classification. Most States have trespass statutes pertaining to the protection of private and public plant resources. At minimum these laws usually require oral permission from private landowners or written permission from State officials before the resources may be removed. Although these statutes may be applied toward conserving American ginseng, they were not considered in determining the State classifications. The State classifications are based on State statutes, regulatory authorities, or initiatives specifically concerned with American ginseng.

C=Conserved: A State agency has implemented or has initiated a program to help conserve American ginseng even though the State agency has no express regulatory authority.

R=Regulated: A State agency has regulatory authority to conserve American ginseng.

U=Unregulated: No State agency has regulatory authority or has initiated a program to conserve American ginseng.

Reported harvest. Few States have even gross estimates of the size of past harvest. The estimates included in the tables are based on voluntary dealer surveys (DS), which may include roots purchased from other dealers as well as those roots purchased from collectors.

State population. A sampling of qualitative opinions concerning American ginseng's abundance and status in the States is provided in the tables. Few of these opinions are supported by data. Missouri is the only State which has estimated the size of its American ginseng population.

As discussed in our August 30, 1977 FEDERAL REGISTER notice (42 FR 43729), qualitative opinions concerning the plant's abundance and status must be viewed critically. Such terms as endangered, rare, and stable are often used imprecisely, without guidelines or criteria. In addition, the plant's status undoubtedly varies with local conditions, further complicating any evaluation of its status and abundance.

In the tables, information concerning American ginseng's status and abundance is followed by a brief explanation as to how those determinations were made. In some cases, no grounds for a qualitative opinion were given so no explanation is provided in the "How Determined" column. When available, grounds are stated with the following abbreviations:

B=Biologists' opinions: Either an opinion expressed by a biologist to U.S. Fish and Wildlife Service or the ESSA, or an opinion expressed by one or more biologists which was cited as a basis for a State comment or a State endangered species list.

CC=Collectors' comments: Comments from collectors received by the U.S. Fish and Wildlife Service or the ESSA.

FO=Field observations: Included when field observations were specifically referred to as a basis for the determination.

HR=Herbarium records: Based on information recorded with herbarium specimens.

LS=Literature survey: Based on information in the literature.

SC=Survey of collectors: State Survey of American ginseng collectors in the affected State.

SD=Survey of dealers: State survey of American ginseng dealers who purchased roots harvested in the affected State.

Findings and conditions for 1978 season. The ESSA's proposed findings concerning export of roots from the 1978 collecting season are given here. As has been indicated for the furbearers, these proposed findings are subject to change as further information is received, and final findings will be published about September 1. The proposed findings are abbreviated as:

A=Approved: Export is approved for roots legally harvested during the 1978 season. The ESSA considers that harvest in the State will not be detrimental to the survival of the species in that State. Roots must be documented as to State of origin and season of collecting.

NEA=No export approved: Several States not approved anticipate providing additional information which may support approval of export of the 1978 harvest.

Comments. Other information relevant to the finding is given here.

AMERICAN GINSENG

State	Classification	Harvest: Reported Harvest/ 1977	Harvest: How Reported	State Population: Estimates of Abundance or Status	State Population: How Determined	Findings	Comments
Alabama	U	--	--	Endangered[1]	--	NEA	No anticipated management program.
				"Good numbers" in North[2]	B		
Arkansas	U	--	--	Depleted but locally abundant[3]	--	NEA	The State anticipates reviewing the status of the species.
				Increased abundance and and distribution[4]	SC (9 responses)		
Connecticut	U	--	--	Rare and local[5]	HR & FO	NEA	Consideration should be given to monitoring native populations.[5]
				Endangered[6]	HR & FO		
Delaware	U	--	--	Rare[7]	--	NEA	Has always been rare.[7] The State supports export restrictions.[8]
Georgia	U	--	--	Endangered[9]	LS & B	NEA	Not included in State endangered species list.
Illinois	U	--	--	Rare[10]	--	NEA	No anticipated management program.
				Decreasing[11]	SC & SD		
				Threatened[12]	LS, HR & B		
				Stable, or Increasing, or Decreasing	CC		
Indiana	U	--	--	Decreasing[13]	FO	NEA	Not included in preliminary State list of endangered plants.[13] State supports export restrictions.[14]
				Not Rare[14]	--		
				Stable or Decreasing	CC		
Iowa	U	--	--	Stable, or Increasing, or Decreasing	CC	NEA	No anticipated management program.
Kentucky	C	52,700 lbs.[15]	DS	Increasing; not Endangered[16]	--	A	American ginseng is not included in the "Endangered Plants and Animals of Kentucky."[20] The State has initiated a program to better establish the species' status, and to monitor the harvest pending express legislative authority in 1980.[15]
				Threatened[17]	--		
				Frequent to Abundant, but Decreasing[18]	--		
				Endangered[19]	--		
				Stable, or Increasing, or Decreasing	CC		
Louisiana	U	--	--	Rare and Local, and Threatened to Endangered[21]	HR	NEA	Louisiana is on the periphery of American ginseng's distribution.

AMERICAN GINSENG

State	Classification	Harvest: Reported Harvest/ 1977	Harvest: How Reported	State Population: Estimates of Abundance or Status	State Population: How Determined	Findings	Comments
Maine	C	--	--	Depleted - 14 stations have been Documented[22/]	HR & FO	NEA	Two of the four known extant stands have been designated "Critical Areas" by the State. The designation does not provide any protection.
Maryland	U	--	--	Decreasing[23/]	Collectors' Reports	NEA	Maryland anticipates developing a program to monitor and manage the harvest. Not included in State endangered species list.
				Locally Common[24/]	--		
				Stable	CC		
Massachusetts	U	--	--	Rare[17/]	--	NEA	Considered a minor ginseng producing State.
				Endangered or Threatened[25/]	--		
				"Exceedingly Rare and Local"[26/]	HR		
Michigan	R	--	--	Threatened	B	A	American ginseng has been designated a Threatened species under the Michigan Endangered Species Act. The State has a program to better establish the species' status, and to monitor and manage its harvest.
Minnesota	U	--	--	Rare and Endangered[17/]	--	NEA	Plant should be protected.[27/] Harvest should not be allowed in the State.[28/] Some collectors support export restrictions.
				"Species of Special Interest"[27/]	--		
				Stable	CC		
Mississippi	U	--	--	Rare and Endangered[29/]	B	NEA	Considered a minor ginseng producing State.
Missouri	C	6100 lbs.[30/]	DS (2 major dealers)	1,000,000 plants[31/]	Based on 1/acre in available habitat.	A	Not included in "Rare and Endangered Species of Missouri."[32/] The State has initiated a program to better establish the species' status, to monitor the harvest, and to promote better management.
				Stable	CC		
Nebraska	U	--	--	Occurs in three eastern counties[33/]	HR	NEA	Not known whether American ginseng is commercially harvested in Nebraska.
New Hampshire	U	--	--	Rare and Endangered[34/]	LS, HR & FO	NEA	Considered a minor ginseng producing State.
New Jersey	U	--	--	Rare[35/]	LS & B	NEA	Considered a minor ginseng producing State.

AMERICAN GINSENG

State	Classification	Harvest: Reported Harvest/ 1977	Harvest: How Reported	State Population: Estimates of Abundance or Status	State Population: How Determined	Findings	Comments
New York	R	--	--	Decreasing and Protected[36/]	FO	NEA	American ginseng is currently protected by the State, but they are developing a program to better establish the species' status, and to monitor and manage its harvest.
				Increasing, or Decreasing	CC & DC		
North Carolina	R	16,615 lbs.[37/]	DS	Threatened[38/]	B	A	The State has initiated a program to better establish the species' status and to monitor and manage its harvest.
				Stable[39/]	--		
				Decreasing[40/]	Survey of Foresters		
				Increasing[16/]	--		
				Decreasing and Threatened[41/]	--		
				Threatened[42/]	--		
				Increasing, or Decreasing	CC		
Ohio	U	--	--	Rare and Endangered[43/]	LS	NEA	Anticipates establishing a management program.
				Locally Common, but Decreasing[44/]	--		
				Stable to Decreasing[45/]	B		
				Stable	CC		
Oklahoma	U	--	--	Extremely rare[46/]	HR	NEA	Oklahoma is on the periphery of American ginseng's distribution.
				Rare 1[47/]	--		
Pennsylvania	U	--	--	Stable[48/]	--	NEA	Pennsylvania anticipates establishing a management program pending express legislative authority.
				Rare in Western Pennsylvania[49/]	--		
				Rare in Perry County, Pennsylvania[50/]	FO		
				Rare in Southeastern Pennsylvania[51/]	--		
				Not Endangered or Threatened[52/]	Because of harvest technique		
				Decreasing[53/]	--		
				Decreasing in Northampton County, Pennsylvania[54/]	--		
				Stable or Increasing	CC		
Rhode Island	U	--	--	Probably extirpated[55/]	Unpublished literature & FO	--	--

AMERICAN GINSENG

State	Classification	Harvest: Reported Harvest/ 1977	Harvest: How Reported	State Population: Estimates of Abundance or Status	State Population: How Determined	Findings	Comments
South Carolina	U	--	--	Threatened[56/]	B	NEA	Considered a minor ginseng producing State.
				Endangered[57/]	FO		
				Endangered[58/]	--		
				Decreasing and Threatened[59/]	FO		
Tennessee	U	--	--	Rare[60/]	--	NEA	State anticipates developing a management program.
				Rare[17/]	--		
				Threatened[61/]	HR & B		
				Decreasing[62/]	HR & FO		
				Stable, or Increasing, or Decreasing	CC		
				Threatened[63/]	B, and other individuals familiar with the plant.		
Vermont	U	--	--	Decreasing[64/]	--	NEA	No anticipated management program. Not included in a State list of protected plants.
Virginia	U	--	--	"endangered in only a few localities if at all"[65/]	B	NEA	The State anticipates developing a management program.
				Endangered[66/]	--		
				Endangered[67/]	--		
				Stable	CC		
West Virginia	R	16,148 lbs., dry 1,073 lbs., green +3,164 lbs.	DS, other sources	Rare to Frequent in occurence in different counties, not Endangered[68/]	B	A	Harvest increased from 1976. The State has initiated a program to monitor and manage the harvest.
				Fairly Common[69/]	--		
				Stable or Increasing	CC		
Wisconsin	R	--	--	Threatened[70/]	HR, LS & FO	NEA	The State has initiated a program to better establish the species' status.
				Rare[71/]	--		
				Stable	CC		

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54. Letter dated October 26, 1977 from K. A. Friedman, Lehigh Valley Conservancy, Inc.
55. Letters dated August 19, and September 1, 1977 from I. H. Stuckey, University of Rhode Island.
56. Letter dated July 19, 1977 from K. B. Stansell, South Carolina Wildlife and Marine Resources Department.
57. Letter dated September 6, 1977 from S. M. Jones, Clemson University.
58. Letter dated September 14, 1977 from R. C. Clark, Erskine College.
59. Letter dated September 27, 1977 from D. C. Rayner, South Carolina Wildlife and Marine Resources Department.
60. Sharp, A. J. 1974. Rare Plants of Tennessee. The Tennessee Conservationist. 40 (1): 20-21.
61. Collins, J. L., H. R. DeSelm, A. M. Evans, R. Kral, B. E. Wofford. No date. The Rare Vascular Plants of Tennessee. Unpublished manuscript. 26 pp.
62. Letter dated August 23, 1978 from E. T. Browne, Jr., Memphis State University.
63. Letter dated May 9, 1978 from B. R. Allison, Tennessee Department of Conservation.
64. Seymour, F. C. 1969. *The Flora of Vermont.* Fourth Edition. Agriculture Experiment Station Bulletin 660. The University of Vermont. Burlington, Vt. 393 pp.
65. Letter dated September 6, 1977 from E. J. Shiflet, Virginia Secretary of Commerce and Resources.
66. Letter dated September 15, 1977 from D. M. Porter, Virginia Polytechnic Institute and State University.
67. Letter dated October 12, 1977 from W. M. Lofits, Jr., Shenandoah National Park.
68. Letter dated February 21, 1978 from D. E. Carter, West Virginia Department of Natural Resources.
69. Letter dated September 26, 1977 from F. L. Pogge, U.S.D.A. Forest Service.
70. Read, R. H. 1976. Endangered and Threatened Vascular Plants in Wisconsin. Scientific Areas Preservation Council Technical Bulletin 92. Wisconsin Department of Natural Resources. 58 pp.
71. Letter dated August 26, 1977 from P. J. Salamun, University of Wisconsin, Milwaukee.

Remarks. American ginseng is often protected on Federal and State lands. Hypothetically, this protection should provide population reservoirs and serve as a buffer against overexploitation. Unfortunately, it appears that prohibitions against harvest on public lands are not generally observed, probably because of the small amount of resources devoted to enforcement. In fact, in some areas of the country most of the harvest is reported to take place on public lands.

Publication of these proposed findings has been approved unanimously by the members of the Endangered Species Scientific Authority.

Dated: June 30, 1978.

WILLIAM Y. BROWN,
Executive Secretary, Endangered Species Scientific Authority.

[FR Doc. 78-18697 Filed 7-6-78; 8:45 am]